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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/579,074	05/21/2007	Christian Funke	2400.0380000/VLC/CMB	3350

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STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.  
1100 NEW YORK AVENUE, N.W.  
WASHINGTON, DC 20005

EXAMINER
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PIHONAK, SARAH

ART UNIT	PAPER NUMBER
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4121

MAIL DATE	DELIVERY MODE
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04/27/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/579,074	<b>Applicant(s)</b> FUNKE ET AL.	
	<b>Examiner</b> SARAH PIHONAK	<b>Art Unit</b> 4121	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 07 April 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,2 and 4-7 is/are pending in the application.
- 4a) Of the above claim(s) 6 and 7 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-2, and 4-5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>11/15/06, 5/21/07</u> .                                       | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

This application is a 371 (national stage application) of PCT/EP04/12328, filed on 10/30/04, and claims foreign priority to Application No. 10353278.1, filed on 11/14/03, and Application No. 102004006075.4, filed on 2/7/04 in Germany.

#### ***Priority***

This application claims foreign priority to Application No. 10353278.1, filed on 11/14/03 in Germany, and Application No. 102004006075.4, filed on 2/7/04 in Germany. Certified copies of both foreign applications have been received; however, they are in German, and an English translation has not been received. The examiner respectfully requests English translations of both foreign applications, to determine the correct priority date of the instant claims. Currently, the effective filing date and priority date provided to the instant claims is 10/30/04, which is the filing date of PCT/EP04/12328.

#### ***Election/Restrictions***

1. Applicant's election with traverse of the invention of Group I, claims 1, 2, 4, and 5 in the reply filed on 4/7/09 is acknowledged. The traversal is on the ground(s) that the reference of Lahm et. al. (WO 03/015518) does not anticipate the composition. This is not found persuasive because Lahm et. al. discloses a method of controlling pests which comprises administration of an anthranilamide of formula I below, and an additional biologically active agent (Abstract, and p. 97, lines 37-38, and p. 98, lines 1-10, p. 139, claim 1, p. 141, claim 6, p. 142, claim 9). Lahm et. al. discloses that the anthranilamide and additional active agent(s) are mixed together for the method of use (p. 96, lines 23-24). The

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anthranilamide compounds of general formula I disclosed by Lahm et. al. includes the anthranilamides of general formula II that are cited in instant claim 1. Furthermore, the additional biologically active agents cited by Lahm et. al. for mixing with the anthranilamide compounds include compounds that are represented by general formula I of instant claim 1, such as clothianidin (p. 139, claim 1, p. 141, claim 6, p. 142, claim 9). The difference noted between what Lahm et. al. teaches and the invention cited in instant claim 1 is that Lahm et. al. discloses a method of use, while instant claim 1 cites a composition; nonetheless, the method of use of the composition teaches the composition. As Lahm et. al. teaches the use of a composition comprised of anthranilamides and additional active agents such as clothianidin, the composition of instant claim 1 is not novel and does not represent a contribution over prior art.

Applicant's argument that the Restriction Requirement is not an Office Action on the merits is noted. However, the determination of whether or not unity of invention was present required analysis of the instant claims in respect to possible prior art, as taught by PCT Rule 13.2. Specifically, Rule 13.2 states "Where a group of inventions is claimed in one and the same international application, the requirement of unity of invention referred to in Rule 13.1 shall be fulfilled only when there is a technical relationship among those inventions involving one or more of the same or corresponding special technical features. The expression "special technical features" shall mean those technical features that define a contribution which each of the claimed inventions, considered as a whole, makes over the prior art". The composition of instant claim 1, of Group I,

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is the special technical feature that is shared between Groups I-III. As the composition comprised of the anthranilamides of general formula II and species of formula I is known in the prior art, the technical feature, which is the composition of instant claim 1, is not 'special'; as such, the inventions of Group I-III are not linked by a special technical feature, and unity of invention between Groups I-III is not present.

In addition to the restriction election, the Applicants elected the following compounds: clothianidin as the species of formula I, and 3-bromo-N-[4-chloro-2-methyl-6-((methylamino)carbonyl)phenyl]-1-(3-chloro-2-pyridinyl)-1H-pyrazole-5-carboxamide, which is also known as Coragen, as the species of formula II.

The requirement is still deemed proper and is therefore made FINAL.

2. Claims 6 and 7 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 4/7/09.

### ***Status of Claims***

3. Claims 1-2, and 4-5 were examined on the merits of patentability.
4. Claims 1-2, and 4-5 are rejected.

### ***35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to

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be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

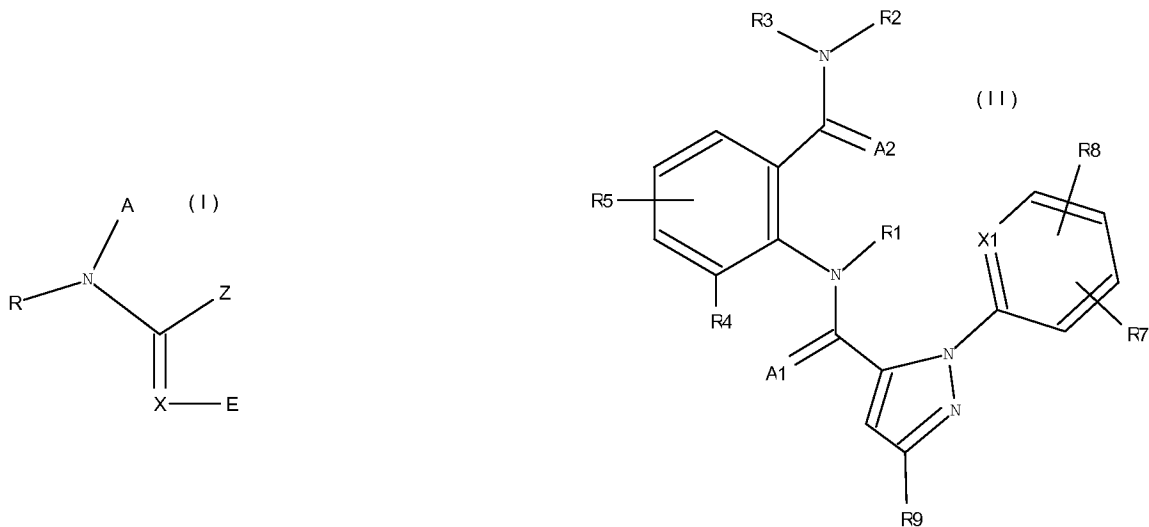
1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claims 1-2, and 4-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 03/015518 publication, in view of Ohkawara et. al., *British Crop Protection Council Conference-Pests and Diseases*, **1**, pp. 51-58, Blumel et. al., *J. Appl. Ent.*, **125**, pp. 201-205, and Colby, *Weeds*, pp. 20-22.

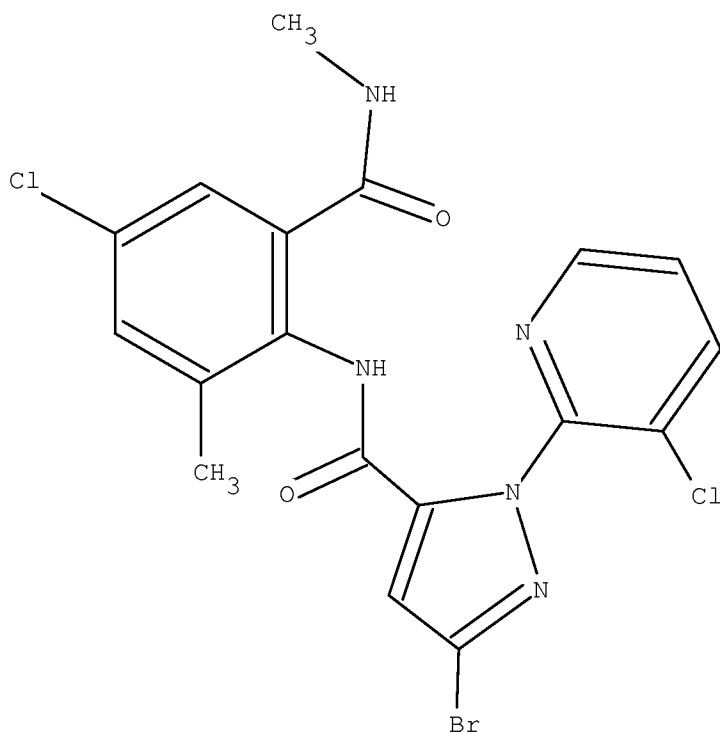
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9. Instant claim 1 cites a composition comprised of a synergistically effective amount of a compound of formula I, and a compound of formula II, shown below:



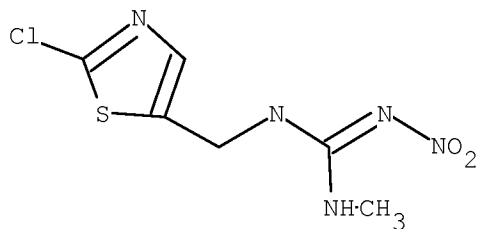
The elected species for formula I, clothianidin, and the elected species for formula II, Coragen, are shown below:

Coragen:

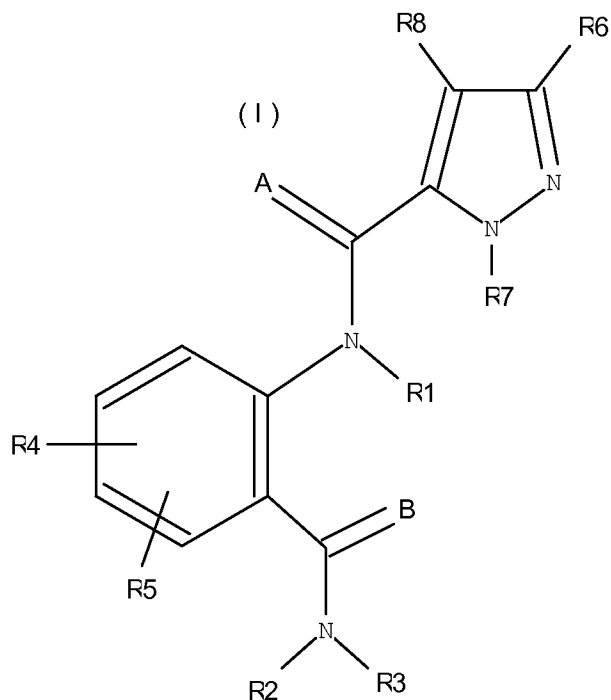


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Clothianidin:



The WO '518 publication discloses a method of controlling pests by administration of a compound of general formula I, shown below:



The substituents of compounds of general formula (I) taught by the WO '518 publication are as follows: R1=H, etc.; R2=H, etc.; R3=C1-6 alkyl, etc.; R4=halogen, etc.; R5=C1-6 alkyl; R6=halogen; R7=a 6-membered heteroaromatic ring optionally substituted with R9; R8=H, etc.; R9=halogen (p. 2, lines 5-26, p. 3, lines 1-19). For the elected compound coragen, the substituents are defined as: R1=H, R2=H, R3=CH<sub>3</sub>, R4=Cl, R5=CH<sub>3</sub>, R6=Br, R7=pyridinyl



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ring, substituted with Cl. Therefore, coragen is a species of the compounds of general formula I taught by the WO '518 publication.

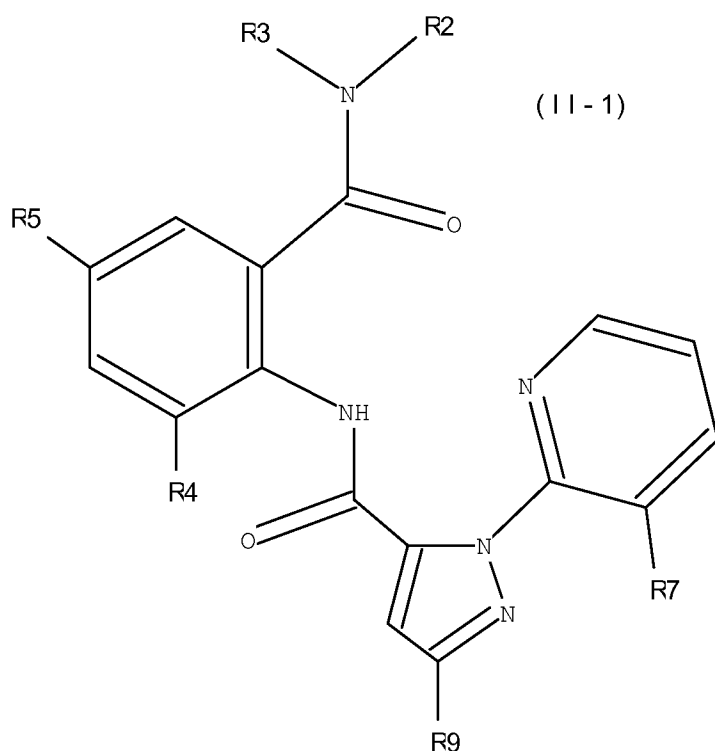
The WO '518 publication also explicitly teaches that coragen itself is present in a mixture for use as a pesticidal agent (Abstract, and p. 42, Example 11 (under the chemical name 3-bromo-N-[4-chloro-2-methyl-6-((methylamino)carbonyl)phenyl]-1-(3-chloro-2-pyridinyl)-1H-pyrazole-5-carboxamide) , p. 89, lines 1-4).

Furthermore, the WO '518 publication discloses that coragen can be combined in a mixture with other biologically active agents, for broader spectrum pesticidal activity (p. 42, Example 11, p. 96, lines 23-28). Specifically, the WO '518 publication teaches that coragen can be combined with clothianidin (p. 42, Example 11, p. 141, claims 6 and 9).

10. Instant claim 2 cites the composition as stated in instant claim 1, and that the compound of formula I is selected from a list of compounds, including the elected compound, clothianidin. The WO '518 publication teaches that clothianidin can be mixed together with coragen, for administration as a pesticide (Abstract, p. 42, Example 11, p. 96, lines 23-24, and line 34, p. 141, claim 6, and p. 142, claim 9).

11. Instant claim 4 cites the composition as stated in instant claim 1, and that the compound of general formula II is further specified as a species of formula II-1, shown below:

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Where R2=H, etc.; R3=C1-6 alkyl, etc.; R5=halogen, etc.; R4=C1-4 alkyl, etc.; R7=halogen, etc.; R9=halogen, etc.

The elected compound of formula II, Coragen, is a species of formula II-1. For coragen, the substituents are defined as follows: R2=H, R3=CH<sub>3</sub>, R5=Cl, R4=CH<sub>3</sub>, R7=Cl, R9=Br. The WO '518 publication teaches that the method of inhibiting pests comprises administration of coragen (Abstract, p. 42, Example 11).

12. Instant claim 5 cites the composition as stated in instant claim 1, and that the elected species of formula I, coragen, is present along with the elected species of formula II, clothianidin, in a ratio from 250:1 to 1:50. The WO '518 publication teaches a method of inhibiting pests which comprises combined administration of coragen with at least one additional biologically active agent,

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clothianidin, in a mixture (Abstract, p. 42, Example 11, p. 96, lines 23-24, and line 34, p. 139, claim 1, p. 141, claim 6, and p. 142, claim 9).

13. Regarding instant claims 1-2, and 4-5, the WO '518 publication does not teach that only nicotinerbic acetylcholine receptor agonists and antagonists compounds of general formula (I), as cited by the instant application, are administered with anthranilamide compounds such as coragen, or that only coragen can be combined with clothianidin. The WO '518 publication teaches that anthranilamide compounds can be combined with a variety of other types of pesticidal agents, in addition to those of general formula I of the instant application.

14. Regarding instant claim 5, the WO '518 publication does not teach that the ratio of the compound of general formula (I), such as the elected compound, clothianidin, to the compound of general formula (II), such as coragen, is from 250:1 to 1:50.

15. Ohkawara et. al. teaches that clothianidin is a neonicotinoid pesticide, which acts as a nicotinerbic acetylcholine receptor agonist (Abstract). Mori et. al. also teaches that clothianidin provides broad spectrum pesticidal activity, has low mammalian toxicity, and did not cause phytotoxicity in testing with various plants (Abstract, p. 55, second and third paragraphs). The WO '518 publication also discloses that coragen also provided significant plant protection at low levels of concentration (p. 115, compound 531, and p. 136, lines 1-8). Therefore, it would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to prepare a formulation comprised of both coragen and

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clothianidin, as the WO '518 publication teaches that coragen provides a high level of plant protection in addition to serving as an effective insecticide, and Ohkawara et. al. teaches that clothianidin is a potent pesticide with low or no causation of plant and mammalian toxicity.

16. Regarding claims 1-2 and 4-5, Ohkawara et. al. and the WO '518 publication combine to teach that coragen and clothianidin are effective as a mixture for use as a broad spectrum pesticide. However, Ohkawara et. al. and the WO '518 publication do not teach that the compounds are mixed together to provide a synergistic combination.

17. Blumel et. al. teaches that the combination of different pesticides in a single mixture or composition has been a strategy to reduce pesticide resistance (p. 201, left column, first sentence). Additionally, Blumel cites that "pesticide mixtures can improve control, partly because of the different types of action of their constituents, which result in additive or synergistic effects" (p. 201, left column, second sentence).

18. Ohkawara et. al. teaches that clothianidin is a neonicotinergic acetylcholine agonist (p. 190, right column, full paragraph, and p. 191, Fig. 1), while the WO '518 publication discloses that coragen is effective as a pesticidal agent against a variety of pests (p. 115, compound 531, p. 127, lines 5-10, p. 128, line 25, p. 129, lines 4-6, and 27, p. 130, lines 4-7, and 28, and p. 136, lines 1-8). As such, the combination of coragen and clothianidin in a formulation would have resulted in a broad spectrum insecticide with additional plant protection. Therefore, it would have been prima facie obvious to one of ordinary skill in the

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art at the time the invention was made that a formulation comprised of clothianidin and coragen would provide synergistic pesticidal benefit, as Blumel et. al. teaches that a single combination or mixture of different pesticides often results in additive or synergistic effects, and Ohkawara et. al. and the WO '518 publication in combination teach that a mixture of coragen and clothianidin results in a broad spectrum pesticide with improved plant protection.

19. Colby teaches a formula for use in calculating synergistic as well as antagonistic responses for herbicide combinations (p. 20, left column, formula II). The formula taught by Colby is as follows:  $E = X + Y - (XY)/100$ , in which E=expected percent inhibition of herbicides, X=percent inhibition of growth by herbicide X, Y= percent inhibition of growth by herbicide Y (p. 20, left column, formula II). Colby teaches that if the resulting growth inhibition is greater than E, the response is synergistic (p. 20, right column, first paragraph). Therefore, a synergistic response of insecticides can be calculated with the use of the formula taught by Colby. The combined references of the WO '518 publication, Ohkawara et. al, and Blumel et. al. teach that the combination of coragen and clothianidin would have resulted in a potent, synergistic pesticidal formulation. As such, it would also have been prima facie obvious for one of ordinary skill in the art at the time the invention was made to optimize the ratios of coragen and clothianidin to provide the most synergistic combination, based upon the calculation taught by Colby. Routine optimization of the amounts of coragen and clothianidin, from the values determined by Colby's formula, would have resulted in the ratio range of clothianidin and coragen from 250:1 to 1:50.

***Information Disclosure Statement***

20. The information disclosure statement (IDS) submitted on 11/15/06 and 5/21/07 was filed. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SARAH PIHONAK whose telephone number is (571)270-7710. The examiner can normally be reached on Monday-Thursday 7:00 AM - 5:30 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Nolan can be reached on (571)272-0847. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

S.P.

/Patrick J. Nolan/  
Supervisory Patent Examiner, Art Unit 4121